

ABSTRACT

The present invention is a CVD process for forming a thin film which includes a step of recovering an organometallic compound component from an exhaust gas which has been conventionally discarded, and a purifying step of purifying the recovered organometallic compound to thereby eliminate a by-product formed in a film forming step by CVD. According to this process, the organometallic compound is recycled. As a recovering technique, any of the followings is employed: a technique in which the exhaust gas is cooled and is recovered as a recovered content; a technique in which the exhaust gas is brought into contact with a solvent to dissolve the organometallic compound in the solvent; and a technique in which the exhaust gas is brought into contact with an adsorbent to thereby adsorb the organometallic compound. A purifying technique is selected depending on the recovering technique or the properties of the recovered content, and any of a technique of distilling the recovered content, a technique of sublimating the recovered content, and a technique of heating the adsorbent to desorb the organometallic compound is employed. These CVD thin film processes can recover and purify the organometallic compound in a higher yield by adding a step of eliminating oxygen from the exhaust gas prior to the recovering step.